CLAIMS

What is claimed is:

1. A calibration block to calibrate an ultrasonic transducer, comprising:

a guide surface; and

an angle gauge supported relative to said guide surface on a first side of said guide surface, said angle gauge adjustable to measure a skew angle of said ultrasonic transducer on said guide surface.

2. The calibration block of claim 1, wherein said angle gauge is slidable along a length of said guide surface.

3. The calibration block of claim 1, wherein said angle gauge is rotatably supported parallel to said guide surface.

4. The calibration block of claim 3, further comprising:

a gauge block rotatably supporting said angle gauge.

5. The calibration block of claim 1, further comprising:

a first calibration surface formed in said first side of said guide surface; and

wherein said ultrasonic transducer rests on said guide surface to transmit ultrasonic waves to said first calibration surface.

6. The calibration block of claim 1, further comprising:

a second calibration surface formed in said first side of said guide surface; and

wherein said ultrasonic transducer rests on said guide surface to transmit ultrasonic waves to said second calibration surface.

7. The calibration block of claim 1, wherein said angle gauge is movable to be supported parallel to said guide surface on a second side of said guide surface.

8. The calibration block of claim 7, further comprising:

a calibration surface formed in said second side of said guide surface; and wherein said ultrasonic transducer rests on said guide surface to transmit ultrasonic waves to said calibration surface.

9. A calibration block to calibrate an ultrasonic transducer, comprising:

a guide surface;

first and second calibration surfaces adjacent to a first side of said guide surface; and

an angle gauge supported relative to said guide surface on a first side of said guide surface, said angle gauge adjustable to measure a skew angle of said ultrasonic transducer on said guide surface.

10. The calibration block of claim 9, wherein said first calibration surface is arcuate and defines a first radius.

11. The calibration block of claim 9, wherein said second calibration surface is arcuate and defines a second radius.

12. The calibration block of claim 9, wherein said angle gauge is slidable along a length of said guide surface.

13. The calibration block of claim 9, wherein said angle gauge is rotatably supported parallel to said guide surface.

14. The calibration block of claim 13, further comprising:

a gauge block rotatably supporting said angle gauge.

15. The calibration block of claim 9, wherein said ultrasonic transducer rests on said guide surface to transmit ultrasonic waves to said first calibration surface.

16. The calibration block of claim 9, wherein said ultrasonic transducer rests on said guide surface to transmit ultrasonic waves to said second calibration surface.

17. The calibration block of claim 9, wherein said angle gauge is movable to be supported parallel to said guide surface on a second side of said guide surface.

18. The calibration block of claim 17, further comprising:

a third calibration surface adjacent to said second side of said guide surface; and

wherein said ultrasonic transducer rests on said guide surface to transmit ultrasonic waves to said calibration surface.

19. The calibration block of claim 18, wherein said third calibration surface is arcuate and defines a third radius.

20. A method of preparing an ultrasonic transducer to analyze material characteristics, comprising:

emitting an ultrasonic beam incident to a reference block;

rotating said ultrasonic transducer on said reference block to achieve a desired amplitude reflection;

measuring an actual skew angle of said ultrasonic transducer on said reference block.

21. The method of claim 20, further comprising:

calibrating said ultrasonic transducer based on said measured actual skew angle.

22. The method of claim 20, further comprising:

moving said ultrasonic transducer along said reference block to achieve said desired amplitude reflection; and

measuring an actual induced angle of said ultrasonic beam through said reference block.

23. The method of claim 22, further comprising:

calibrating said ultrasonic transducer based on said measured actual induced angle.

24. The method of claim 20, wherein said step of measuring said skew angle comprises:

aligning an angle gauge with a position of said ultrasonic transducer on said reference block; and

reading an angle indicator from said angle gauge to determine said actual skew angle.